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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,291	06/21/2001	Gerald P. Roston		9558
34300	7590	11/25/2003	EXAMINER	
KILPATRICK STOCKTON LLP 1001 WEST FOURTH STREET WINSTON-SALEM, NC 27101			RO, BENTSU	
			ART UNIT	PAPER NUMBER
			2837	
DATE MAILED: 11/25/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/888,291	ROSTON ET AL.
	<b>Examiner</b> Bentsu Ro	<b>Art Unit</b> 2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is FINAL.                  2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 25-39 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 25-31,34,35 and 37 is/are rejected.  
 7) Claim(s) 32,33,36,38 and 39 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) The translation of the foreign language provisional application has been received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .

## FIRST OFFICE ACTION

1. Claims 34-39 are objected to because in claim 34, the recited element "manipulandum" is not supported by the disclosure.

It is noted that the disclosure as originally filed does not use the word "manipulandum", therefore, the claimed "manipulandum" in claim 34 is un-supported.

Correction is required.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -  
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 25-28, 30, 31, 34, 35, 37 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Marcus et al US Patent No. 6,004,134.

Claims read onto Marcus et al teaching as follows:

**The claims:**

25. (Original) A spatially unrestricted force-feedback device, comprising:

a body;

**Marcus et al teaching:**

Fig. 1 shows an overall block diagram of an interactive force feedback simulator; the system of Fig. 1 is a spatially unrestricted force-feedback device;

a body can read onto many different parts of force feedback device, for example:  
a body can read onto Fig. 3, the joystick 12, or the control unit 10, or the drum 46 (Fig. 4) or the frame of the control unit 10, etc;

a plurality of motors, each of said motors capable of imparting an inertial force about an associated axis of rotation and each of said motors connected to said body

to provide computer controllable tactile sensations on said body about said associated axis;

a user-interactable member connected to said body,

wherein said user-interactable member is in communication with a host computer system modeling a simulated environment including one or more simulated objects,

said host computer system commanding said tactile sensations on said body as a function of a simulated activity involving at least one

for comparison purpose, the examiner hereby reads the body onto the joystick 12;

Fig. 3 shows motors 30 and 32; the function of motors 30 and 32 is to impart an inertial force on its axis, and therefore, to the joystick 12; see column 3, lines 24-27 for example;

see column 4, lines 22-56; specifically see column 4, lines 29-40 for the tactile sensations in a simulated walking, running, jumping squatting, punching, kicking, etc of a character 90 shown in Figs. 10 and 11;

Fig. 3 shows a button switch 20 connected to the joystick 12; see column 2, lines 59-60 for the functioning of the switch 20;

column 2, lines 59-60 states that "*at least one button type switch 20 for sending signals to the computer 16*"; thus, a host computer system reads onto the computer 16 shown in Fig. 1; the simulated environment is demonstrated in Figs. 10, 11 and explained in column 4; a simulated environment can be any one of walking, running, jumping squatting, punching, kicking, etc of the character 90; "one or more simulated objects" can read onto the a treasure or a series of different terrains, see column 4, line 28; or a tree or other object, see column 4, line 38;

again see column 4, lines 22-56;

object within said simulated environment;  
and

a computer mediated controller electrically connected to said motors and in communication with said host computer system,

said controller receiving signals from said host computer system and simultaneously controlling each of said motors in response such that said motors produce said inertial forces about said axes,

and said controller sending data to said host computer system, said data responsive to user manipulation of said user-interactable member.

26 (and similar claim 27) (Original) A spatially unrestricted force-feedback device as described in claim 25, wherein said computer mediated controller decodes commands received from said host computer system.

28. (Original) A spatially unrestricted force-feedback device as described in claim 25, wherein said user-interactable member is a joystick.

Fig. 9 shows a communication path, including a host connection 82 connected to the computer 16 (the computer 16 is shown in Fig. 1 but is not shown in Fig. 9) and to a microcontroller 80 inside the programmable section 14 of Fig. 1; the microcontroller 80 controls the motors via amplifiers 84, 86; thus, the microcontroller 80 is a computer mediated controller;

see column 4, lines 22 and thereafter for the simulation of activity;

column 2, lines 59-60 clearly states that the switch 20 sends signal to the computer; Fig. 9 clearly shows “DATA” and “ADDR” for two-way communication between the controller 80, the computer 16 (not shown in Fig. 9) and the controlled elements, including the switch 20.

All commands and programs require decoding;  
Fig. 9 shows the microcontroller 80 for decoding commands from both sides (1) the user and (2) the computer 16;  
column 3, line 60 states “*executable code from the host computer*”.

In claim 25, one can read “a body” onto the control unit 10, see Fig. 1; and “a user-interactable member” onto the joystick 12, including the switch 20.

30. (Original) A spatially unrestricted force-feedback device as described in claim 25, wherein said user-interactable member is associated with the simulation of a sport.

31. (Original) A spatially unrestricted force-feedback device as described in claim 25, wherein said computer mediated controller includes a processor that run motor control code stored in Read-Only memory.

The walking, running, jumping squatting, punching, kicking, etc are various different types of sport activities.

Fig. 9 shows the microcontroller 80; column 3, lines 54-56 states that "*The microcontroller 80 is any suitable processor...*"  
lines 62-67 states that "...*operating firmware from on-board non-volatile memory....*".

Claims 34, 35 and 37 are second group of claims similar to but broader than the above-explanation first group claims. Explanation of the second group claims is omitted.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al in view of Behensky et al US Patent No. 5,044,956.

Regarding claim 29, Marcus et al do not teach the user interactable member to be a steering wheel.

However, a steering wheel to be used as a user interactable member in a vehicle simulating system is taught by Behensky et al. In view of Behensky et al teaching, it would have been obvious to a skilled person in the art to use Marcus et al system to control a steering wheel of Behensky et al to simulate the operation of a driver behind the steering wheel to achieve the same subject matter as claimed.

Why use Marcus et al system to control Behensky et al steering wheel ??? Marcus et al system uses two motors to provide two-dimensional interactive force which appears to be better than a single motor for a single axis interactive force of Behensky et al alone.

6. Claims 32, 33, 36, 38, 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication should be directed to Bentsu Ro at telephone number 703 308-3656.

November 17, 2003

Bentsu Ro  
Bentsu Ro  
Primary Examiner